



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,794	08/14/2000	Soichiro Kawakami	839.425	1438

5514 7590 10/07/2002

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 10/07/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/554,794

Applicant(s)

KAWAKAMI ET AL.

Examiner

Laura S Weiner

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35, 37-41 and 43-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22, 24-35, 37-39, 41 and 43-58 is/are rejected.
- 7) ☒ Claim(s) 23 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1745

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges the cancellation of claims 36 and 42 cited in Amendment C dated 9-24-02. Claims 1-35, 37-41, 43-58 have been examined on their merits.

Response to Arguments

2. Applicant's arguments filed 9-24-02 have been fully considered but they are not persuasive.

The rejection of claims 1, 10, 12-16, 37-38, 41, 43-58 under 35 U.S.C. 102(e) as being anticipated by Jacobs et al. (6,007,945) remains because Jacobs et al. teaches an anode active substance which is 55:45Ti₃Sn or 45:55Ti₂Sn or 40:60Ti₅Sn₃ or 33:67 Ti₆Sn₅ is known. Thus, teaching an electrode material having the formula SnX₂A where A is at least one kind of an element selected from the group consisting of transition metal elements such as Ti (claim 12) and X does not have to be present.

The rejection of claims 1, 10-22, 24-35, 37-39, 41, 43-58 under 35 U.S.C. 102(b) as being anticipated by Idota et al. (5,780,181) remains because Idota et al. teaches compounds comprising Sn for the anode material such as SnPb_{0.01}O_{1.02}, SnP_{0.9}Pb_{0.1}O_{3.45}, [SnX], etc. Idota et al. teaches in column 7, lines 42-52, that the negative electrode material may contain various compounds such

Art Unit: 1745

as group 1 elements such as Li, transition metals [*Thus, teaching a Sn A X alloy*], lanthanoid metals, the group 2 elements such as Be, Mg, Ca, Sr, etc.

Claim Rejections - 35 USC § 112

3. Claims 24-26, 28, 30, 32, 47-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 24-26 are rejected because it is unclear from claim 1 which elements are rare earth elements in X or metalloide elements in X. This is clear in claim 27. It would be clearer if this was identified in claim 1 and/or in claim 24.

Claim 28 is rejected because it is unclear from claim 1 which elements are rare earth elements. This is clear in claim 29. It would be clearer if this was identified in claim 1 and/or claim 28.

Claim 30 is rejected because it is unclear from claim 1 which elements are metalloide elements in X. This is clear in claim 31. It would be clearer if this was identified in claim 1 and/or in claim 30.

Claim 32 is rejected because it is unclear from claim 1 which elements are rare earth elements in X or metalloide elements in X. This is clear in claim 33. It would be clearer if this was identified in claim 1 and/or in claim 32.

Claims 47-50 are rejected because claim 47 is dependent on a rejected claim 42.

Art Unit: 1745

Claim Rejections - 35 USC § 102

4. Claims 1, 10, 12-16, 37-38, 41, 43-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacobs et al. (6,007,945).

Jacobs et al. teaches in column 3, lines 55-67, Table 1 and column 4, lines 35-40, a lithium battery comprising an anode active substance which is 55:45Ti₃Sn or 45:55Ti₂Sn or 40:60Ti₅Sn₃ or 33:67 Ti₆Sn₅. Jacobs et al. teaches in column 5, lines 1-27, that the average particle size was 15 um and that the particles were mixed with petroleum coke and polyvinylidene fluoride binder, each present in the mixture in 5 wt% and the mixture was coated in 0.05 mm thickness onto one face of a copper foil. Jacobs et al. teaches that the cathode was made of LiCoO₂. Jacobs et al. teaches in Example 2, that the lithium battery also comprises an electrolyte.

5. Claims 1, 10-22, 24-35, 37-39, 41, 43-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Idota et al. (5,780,181).

Idota et al. teaches in column 11, lines 30-51, a nonaqueous secondary battery comprising a Li-containing manganese oxide spinel cathode material and an electrolyte. Idota et al. teaches in columns 5-6, compounds comprising Sn for the anode material such as SnPb_{0.01}O_{1.02}, SnP_{0.9}Pb_{0.1}O_{3.45}, etc. Idota et al. teaches in column 7, lines 42-52, that the negative electrode material may contain various compounds such as group 1 elements such as Li, transition metals, lanthanoid metals, the group 2 elements such as Be, Mg, Ca, Sr, etc. and the group 17 elements

Art Unit: 1745

such as F. Idota et al. teaches in column 22, lines 20-30, that the average particle size of the anode material was 5 μm . Idota et al. teaches in column 29, Example C-1, that the negative electrode comprises 82% of negative electrode material, 8% flake graphite and 4% acetylene black as conducting agents and 6% of polyvinylidene fluoride as binder. Idota et al. teaches in column 16, lines 43-58, that the collector for the active material may be made of any electron-conducting substance which undergoes no chemical change in an assembled battery.

Claim Rejections - 35 USC § 103

6. Claims 2-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jacobs et al. (6,007,945).

Jacobs et al. teaches in column 3, lines 55-67, Table 1 and column 4, lines 35-40, a lithium battery comprising an anode active substance which is 55:45Ti₃Sn or 45:55Ti₂Sn or 40:60Ti₅Sn₃ or 33:67 Ti₆Sn₅. Jacobs et al. teaches in column 5, lines 1-27, that the average particle size was 15 μm and that the particles were mixed with petroleum coke and polyvinylidene fluoride binder, each present in the mixture in 5 wt% and the mixture was coated in 0.05 mm thickness onto one face of a copper foil. Jacobs et al. teaches that the cathode was made of LiCoO₂. Jacobs et al. teaches in Example 2, that the lithium battery also comprises an electrolyte.

Since Jacobs et al. teaches the same anode electrode material comprising a SnAX alloy which comprises a transition metal element then inherently the same SnAX alloy exhibiting a peak

Art Unit: 1745

in a range of 25-50 degrees would have the same half width must also be obtained and having the same crystallite size of 100-500 A would also be obtained.

In addition, the presently claimed half width property and the same crystallite size of 100-500 A would have obviously have been present once the Jacobs et al. product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

Allowable Subject Matter

7. Claims 23 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

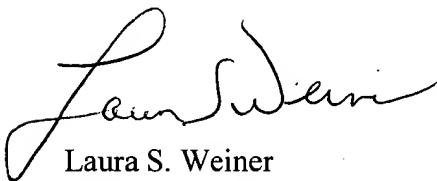
Art Unit: 1745

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Weiner whose telephone number is (703) 308-4396. The examiner works a flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (703) 308-2383. The fax phone number for non-after finals is 703-872-9310 and the fax phone number for after-finals is 703-872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Laura S. Weiner
Primary Examiner
Art Unit 1745
October 3, 2002